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E1G  
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## (54) Speed bumps

(57) In a speed bump having a main body and a resilient panel extending upwardly therefrom the panel, which may be detachable from the main body of the speed bump, may be made from a flexible material or may be resiliently connected at its base to the main body. The panel may carry information visible to a driver of an on-coming vehicle.

FIG. 1.

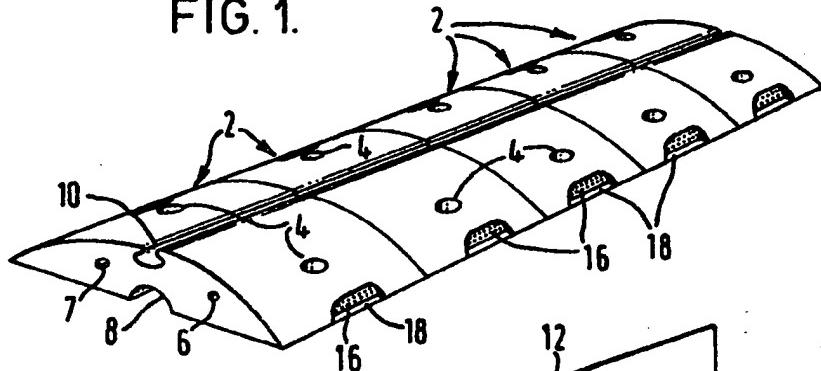
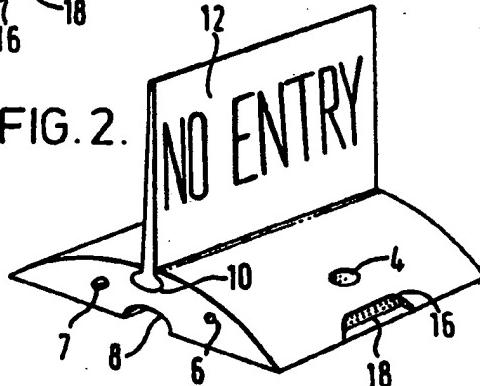


FIG. 2.



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The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.

The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1982.

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FIG. 1.

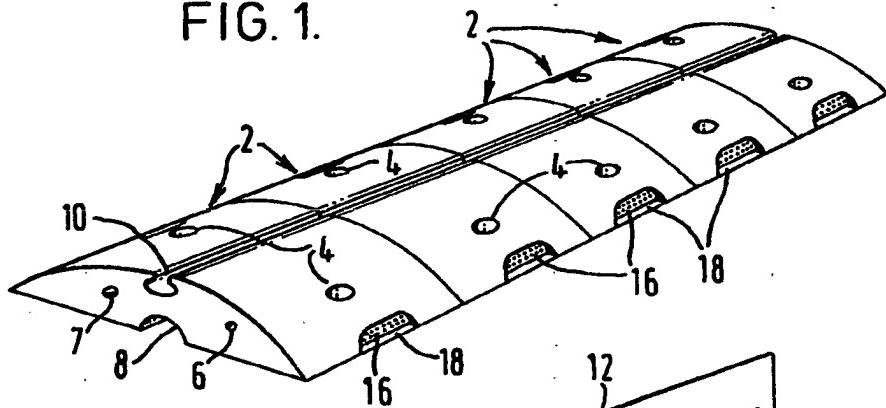


FIG. 2.

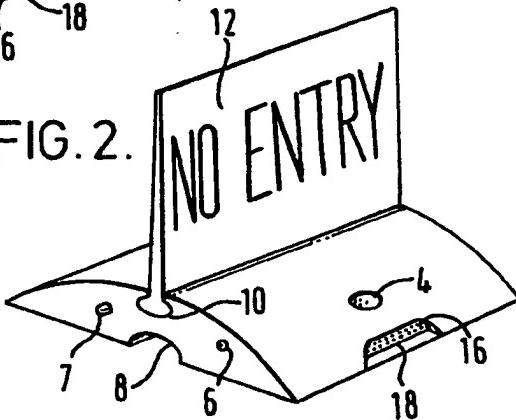


FIG. 3.

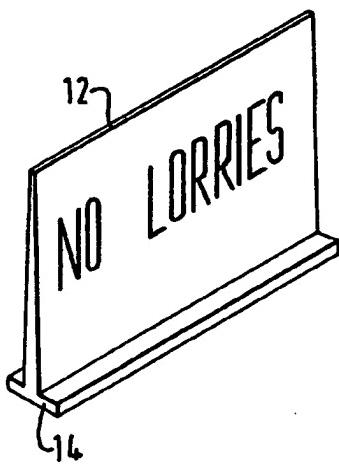
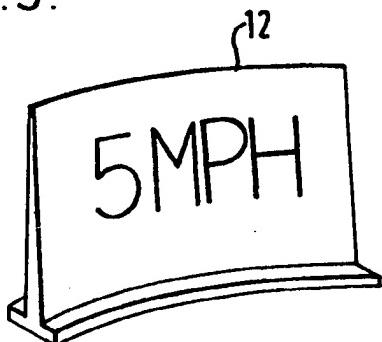


FIG. 4.



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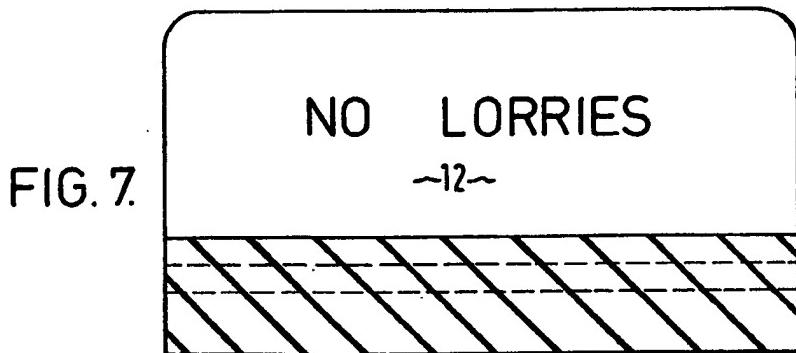
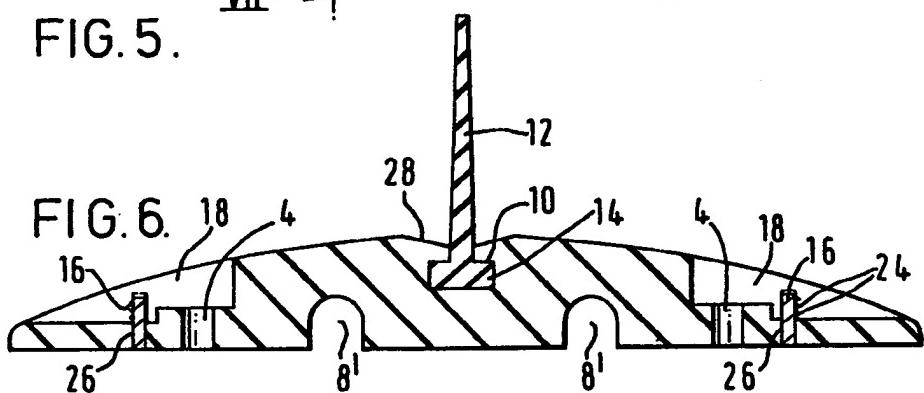
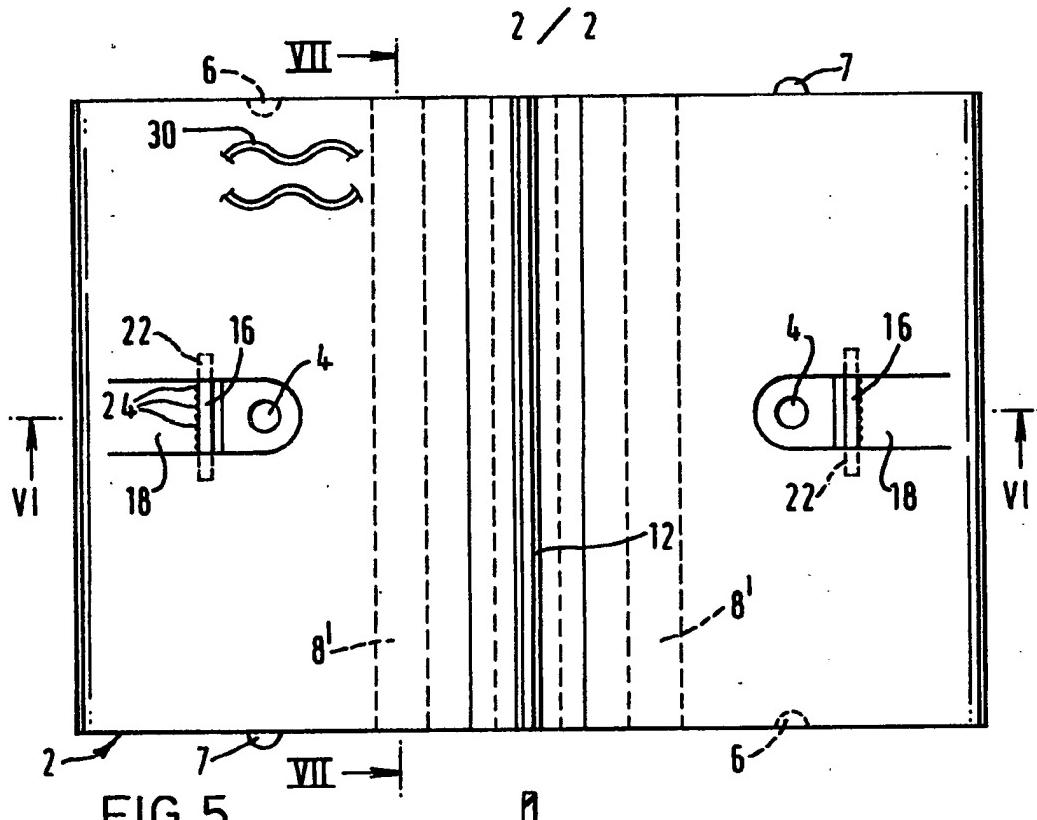


FIG. 7.

## SPECIFICATION

### Speed bumps

5 This invention relates to speed bumps.

Speed bumps are frequently used to encourage the drivers of vehicles to limit their speed. A known form of speed bump is assembled from a series of separate blocks laid side-by-side across a road. The blocks may be made, for example, from rubber.

According to the present invention there is provided a speed bump comprising a main body and a resilient panel which extends upwards from the main body.

The resilient panel will increase the apparent height of the speed bump as seen by the driver of a vehicle, and this will encourage the driver to proceed very slowly over the speed bump. Also, the resilient panel can carry information visible to the driver of an on-coming vehicle. Thus, for example, the resilient panel may carry information indicating a maximum permitted speed, or restrictions on the type of vehicles which may enter a selected area.

The panel is preferably upright when unstressed, the resilience of the panel allowing it to be deflected when a vehicle passes over the speed bump. In a preferred embodiment, the panel is made from flexible material, such as a plastics material. The thickness, and therefore the rigidity, of the panel may decrease in the upwards direction. Alternatively, the panel itself may be rigid, but connected resiliently to the main body.

It is an advantage if the panel is detachable from the main body of the speed bump. To this end, the upper face of the speed bump may be provided with a transverse groove in which the panel is received. The groove may be undercut, i.e. the base of the groove may be wider than the mouth of the groove, the groove then receiving an enlarged rib at the base of the panel. With this construction, the panel may be inserted and removed from the main body by sliding it lengthwise of the groove.

The panel may be curved (the groove, if provided, being correspondingly curved) in order to improve the self-righting characteristics of the panel.

The main body of the speed bump may be assembled from a plurality of blocks laid side-by-side. Each block may be provided with a separate panel, or a single panel may be provided which extends across more than one of the blocks. In order to locate adjacent blocks with respect to each other, the blocks may be provided on their abutting faces with cooperating projections and recesses, so that, when adjacent blocks are placed in contact with each other, each projection on one of the blocks engages a recess in the other.

Each speed bump may be provided with a reflective element, and in accordance with a

further inventive feature, which may be used in speed bumps not having the resilient panel, the reflective element is received in an aperture which opens at the base of the main

70 body of the speed bump. The reflective element is thus readily insertable into and removable from the main body from the underneath, but cannot readily be removed from the top of the speed bump when it is in position.

75 The resilient element preferably comprises a relatively thin plate, with a reflective surface. The plate extends through a slot in the main body into a recess in the upper face of the block.

80 For a better understanding of the present invention, and to show how it may be carried into effect, reference will now be made, by way of example, to the accompanying drawings, in which:

85 Figure 1 is a diagrammatic perspective view of a speed bump;

Figure 2 is a diagrammatic perspective view of a block from which the speed bump of Figure 1 may be assembled, the block having

90 a resilient panel;

Figure 3 is a perspective view of a panel for use with the block of Figure 2;

Figure 4 is a perspective view of an alternative embodiment of panel;

95 Figure 5 is a plan view of a block for a speed bump;

Figure 6 is a sectional view taken on the line VI-VI in Figure 5;

Figure 7 is a sectional view taken on the 100 line VII-VII in Figure 5.

The speed bump shown in Figure 1 is assembled from a plurality of blocks 2. Each block may be made, for example, from rubber. Each block has a pair of holes 4 for receiving,

105 for example, expanding rag bolts for bolting the block to a road surface. On each face, each block has a recess 6 and a projection 7 disposed so that, when two blocks are placed side-by-side, the projection 7 on one block engagesthe recess 6 in the other. This serves to locate the adjacent blocks relatively to each other.

A central channel 8 extends transversely across the base of each block from one end

115 to the other, to provide a continuous channel running the full length of the speed bump. This channel allows, for example, an electric cable or a hose to be run from one side of the road to the other, while being protected

120 from traffic by the speed bump. Alternatively, as shown in Figure 6, the single channel 8 may be replaced by two or more parallel channels 8' in the underside of each block, in order to improve the flexibility of the block so

125 as to enable it to conform to road surfaces which are not perfectly flat.

The top face of each block 2 is provided with a groove 10. As shown in Figure 2 and 6, the groove 10 receives a flexible panel 12 bearing appropriate information. Instead of in-

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formation, the panel may, for example, be distinctively coloured or reflective, or it may bear advertising material. Each panel, as shown most clearly in Figure 6, has an enlarged base, forming a rib 14, which is received in the groove 10. For this purpose, the groove 10 is wider towards its base than it is at its mouth, the mouth of the groove 10 being of substantially the same width as the thickness of the lower part of the main portion 12. The main portion 12 tapers in the upwards direction so that the rigidity of the panel 12 increases in the direction towards the rib 14. The panel 12 may, for example be made from natural or synthetic rubber or from plastics material.

The panel 12 can readily be inserted into the groove 10, or removed for replacement by another panel, for example if the original panel becomes damaged or if the information on the panel is to be changed. The information or other material on the panel may be printed, for example, by hot foil stamping.

In the embodiment shown in Figure 2, the panel 12 is curved out of a plane extending lengthwise of the speed bump. The groove 10 for receiving the panel 12 shown in Figure 2 would be correspondingly curved. Alternatively, a curved groove could be used with an initially straight panel 12, the panel then being curved as it is inserted into the groove 10. By curving the panel 12, its rigidity is increased, so improving its ability to return to the upright position after being deflected by a passing vehicle.

Each block 2 is also provided near its front and rear edges (with respect to the travel direction of a vehicle passing over the speed bump) with a reflective element 16. These reflective elements are shown in greater detail in Figures 5 and 6. In the region of each reflective element, each block 2 has a recess 18 opening upwardly and towards one edge of the block. The surface of each reflective element 16 may, for example, be rendered reflective by embedding in the element a plurality of small spherical glass beads 24 (Figures 5 and 6) which may be coloured.

The element projects into the recess 18 through a slot 26 which opens at the base of the block 2. The length of the slot 26 is greater than the width of the recess 18, so that two lateral channels 22 are provided in the block 2 for receiving the edges of the element 16. The channels 22 terminate short of the upper surface of the block 2, so that it is impossible to remove the element 16 by drawing it upwards. The reflective element 16 can thus be inserted into, or removed from, the block 2 from the base of the block, but it cannot be removed from the top of the block, once the block is fixed in position on a road.

In use of a speed bump as shown in the Figures, the panel or panels 12 provide a useful and easily changeable source of informa-

tion, or other visual material, for the driver of an on-coming vehicle. As the vehicle drives over the speed bump, the panel 12 is deflected to avoid damage to the vehicle, but

its natural resilience (combined with its curvature if the embodiment of Figure 4 is used) causes the panel 12 to spring upright again once the vehicle has passed. As shown in Figure 6, a valley 28 in the form of a shallow V is provided at the mouth of the groove 10, to reduce stresses in the panel 12 when it is deflected. The reflective elements 16 increase the visibility of the speed bump at night. The construction shown in Figures 5 and 6 makes

these reflective elements easily replaceable should they become damaged, or, for example, should the reflective elements of one colour need to be replaced by reflective elements of another colour, while the reflective elements are held securely in position during normal use and are protected from damage.

As shown in Figure 5, the upper surface of the block 2 is provided with meandering grooves 30 which are disposed side-by-side across the width of the block and which each extend from the front edge to the rear edge of the upper surface.

#### CLAIMS

95. 1. A speed bump comprising a main body and a resilient panel which extends upwardly from the main body.
2. A speed bump according to Claim 1, wherein the panel is upright when unstressed.
100. 3. A speed bump according to Claim 1 or 2, wherein the panel is made from a flexible material.
4. A speed bump according to Claim 3, wherein the flexible material is a natural rubber, a synthetic rubber or a plastics material.
105. 5. A speed bump according to any preceding claim, wherein the thickness of the panel decreases in the upwards direction.
6. A speed bump according to any one of Claims 1 to 4, wherein the panel is rigid and is resiliently connected, at its base region, to the main body.
110. 7. A speed bump according to any preceding claim, wherein the panel is detachable from the main body.
115. 8. A speed bump according to Claim 7, wherein the upper face of the main body is provided with a transverse groove in which the panel is received.
120. 9. A speed bump according to Claim 8, wherein the base of the groove is wider than the mouth of the groove to receive an enlarged rib at the base region of the panel.
125. 10. A speed bump according to any preceding claim, wherein the panel curved out of a plane extending lengthwise of the speed bump.
11. A speed bump according to Claim 8 or 9 or Claim 10 when appendant to Claim 8 or 130. 12. A speed bump according to Claim 8 or 9, wherein the groove is curved out of a

- plane extending lengthwise of the speed bump.
12. A speed bump according to any preceding claim, wherein the main body of the speed bump is assembled from a plurality of blocks laid side-by-side.
13. A speed bump according to Claim 12, wherein each block is provided with a separate panel.
- 10 14. A speed bump according to Claim 12, wherein a single panel is provided to extend across more than one of the blocks.
- 15 15. A speed bump according to Claim 11, wherein abutting faces of the blocks are provided with cooperating projections and recesses such that, when adjacent blocks are placed in contact with each other, each projection on one of the blocks engages a recess in the other.
- 20 16. A speed bump according to any preceding claim, including a reflective element.
17. A speed bump according to Claim 16, wherein the reflective element is received in an aperture which opens at the base of the main body of the speed bump.
- 25 18. A speed bump according to Claim 16 or 17, wherein the reflective element comprises a relatively thin plate, with a reflective surface.
- 30 19. A speed bump according to Claim 18, wherein the plate extends through a slot in the main body into a recess in an upper face of the block.
- 20 35. A speed bump according to any preceding claim, wherein the panel displays information which, in use of the speed bump, is visible to the driver of an on-coming vehicle.
21. A speed bump comprising a main body and being provided with a reflective element
- 40 45. which is received in an aperture which opens at the base of the main body of the speed bump.
22. A speed bump according to Claim 21, wherein the reflective element comprises a relatively thin plate, with a reflective surface.
23. A speed bump according to Claim 22, wherein the plate extends through a slot in the main body into a recess in the upper face of the block.
- 50 50. 24. A speed bump substantially as herein-before described, with reference to: Figure 1; Figure 2; Figures 1 and 3; Figures 1 and 4; Figures 1 and 7; Figure 5; and Figure 6 of the accompanying drawings.